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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/971,812	10/05/2001	Timothy W. Clark	4487.26.0	4568

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EXAMINER

EBRAHIM, NABILA G

ART UNIT PAPER NUMBER

1618

DATE MAILED: 01/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/971,812	CLARK ET AL.	
	Examiner	Art Unit	
	Nabila G. Ebrahim	1618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5, 8-18, 20-25 and 28-35 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 8-18, 20-25, 28-35 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

The amendments of claims filed 11/2/05 have been entered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-5, 8-18, 20-25, 28-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Glabe et al. (US 4, 196, 194) in view of Glabe et al. (US 3, 925, 559) and further in view of Lange et al. (US 5, 296, 243).

Claims 1-5 are drawn to a method of increasing the intake and lactation in dairy animals comprising administering feed supplement comprising a mixture of effective

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amounts of sodium diacetate and sugar, that the sugar (consisting of dextrose, glucose lactose or D-ribose); adding feed supplement to the mixed feed and administering feed to the animals. In the method, the weight ratio of the sodium diacetate to the other ingredients in the feed supplement is 0.2-0.7, and 0.2-0.4 and the sugar comprises of a monosaccharide or disaccharide.

According to applicant, the other claims, i.e. claim limitations in claims 8-18, 20-25, 28-35 are drawn to the sugar in the feed which is consisting of sucrose and maltose, the %/wt ranges of the ingredients are provided; that the supplement contains sodium bicarbonate or bentonite (%/wt ranges are given) and the total amount of bentonite and sodium bicarbonate in the feed supplement does not exceed 50%.

Glabe et al (Patent 194) meets applicant's claim limitations in that Patent 194 discloses an invention in which a method is described wherein dairy cattle is fed with a composition containing sodium diacetate and carbohydrates from many sources (corn, silage, whey, hay). The feed supplement comprises of other ingredients in addition to the sodium bentonite and sodium diacetate (col. 2, lines 5-40), it provide ratios or proportions of the sodium diacetate and the other ingredients and specifically mentions, as in applicant's claims that the quantity of sodium diacetate is approximately 50% of the mixture (col. 4, lines 40-55). According to Glabe, when cattle are fed the feed supplement, there is increase in milk production in the animals (abstract, col. 1, line 20, col. 2, lines 1-40 and col.14, lines 45-50). However, Patent 194 does not teach the advantages of using various amounts of diacetate in the feed in terms of aiding the enhancement of fermentation or digestion in the animals.

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Lange et al. US 5296243 (patent 243), used easy digestible monosaccharide and amino acids in his invention to feed ruminants, the sugars used are mono- or disaccharides or sugar alcohols (col. 1, lines 3,4). From the preferred sugars are glucose and fructose (col. 1, lines 67,68, see also table V, VII, and XV).

Glabe et al (Patent 559) discloses the use of specific amounts of sodium diacetate in preparing the feed composition and points out that sodium diacetate in small quantities are used for increasing the taste of feed and making such feed attractive to the animals (col. 2, lines 40-60 and col. 3, line 10 and col. 5, lines 1-5).

Amended claim 24, which recites the use of sodium diacetate and dextrose, is rejected as Glabe '149 disclosed the use of dextrose as a fraction of a percent (col. 1, line 60).

One of ordinary skill in the art would have been motivated to prepare a feed supplement composition comprising easy digestible monosaccharide and ingredients that can enhance the digestion or fermentation in dairy cows, said feed supplement comprising amounts of sodium diacetate as attractant. One of ordinary skill would expect that the feed supplement thus prepared will enhance both feeding and digestion in the dairy animals thereby increase both the weight of the animals milk as shown by the results in the prior art cited. Therefore the invention as a whole would have been prima facie obvious to one of ordinary skill in the art at the time of the invention was made.

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Conclusion: claims 1-5, 8-18, 20-25, 28-35 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Glabe et al. (US 4, 196, 194) in view of Glabe et al. (US 3, 925, 559) and further in view of Lange et al. (US 5, 296, 243).

Response to arguments

Applicant's arguments filed 10/4/2005 have been fully considered but they are not persuasive.

Applicant traverses the previous rejection by arguing:

- None of the references relied on for this rejection, either alone or in combination, disclose or teach combining sodium diacetate and a simple sugar to enhance ruminant's feed intake and milk production.
- One of ordinary skill in the art would not be motivated to combine the teachings of either Glabe '194 or Glabe '559 with the teachings of Lange et al. to provide a feed additive comprising sodium diacetate and a simple sugar.
- How can one extract from the references the concept of combining effective amounts of a simple sugar and sodium diacetate so that they function in a synergistic manner to provide rumen microbes with a source of rapidly fermentable simple sugar while maintaining a consistent rumen pH to enhance rumen digestion?
- There is no assurance or even likelihood that the claimed invention would be obtained, since the references themselves (excluding the applicants teachings)

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do not teach which sugars would work, nor do they provide any instruction as to the use of "effective amounts" of the respective ingredients.

In response to the above argument, the examiner position is to confirm that:

Invention: the examiner thanks the applicant for explaining and defining the scope of their invention, however, the examiner reminds the applicant that the invention, which is being examined is a composition and that the intent of use of this composition is not a concern in examining the application.

- The combination of Glabe '194 and Lange would effectively suggest the use of sodium diacetate and simple sugar. Glabe used sodium diacetate and dextrose in a fraction of a percent (col. 1, line 60), and Lange suggests a process to correct and optimize the feed-composition adding simple sugars (monosaccharide or disaccharides) to the feed (abstract) claims 2-4, 6, 8, 10)
- The motivation as written in the office action was clear, as one of ordinary skill in the art would find it persuasive to combine the sugars as Lange showed to the sodium diacetate that '194 teaches and expect an addition to the animals feed that will increase weight and milk production.
- One could extract from the references the concept of combining effective amounts of a simple sugar and sodium diacetate so that they function in a synergistic manner to provide rumen microbes with a source of rapidly fermentable simple sugar while maintaining a consistent rumen pH to enhance rumen digestion by means of his skill, it is supposed that a person who has

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ordinary skills in the art can extract the different knowledge needed to promote his art.

- The claimed invention would be obtained, since Lange teaches monosaccharides or disaccharides (claims 2-4, 6, 8, 10) and '149 teaches dextrose in specific, then the skilled artisan will find out the "effective amounts" of the respective ingredients because the amount of a specific ingredient in a composition is clearly a result effective parameter that a person of ordinary skill in the art would routinely optimize. Optimization of parameters is a routine practice that would be obvious for a person of ordinary skill in the art to employ. It would have been customary for an artisan of ordinary skill to determine the optimal amount of each ingredient to add in order to best achieve the desired results.

2. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nabila G. Ebrahim whose telephone number is 571-272-8151. The examiner can normally be reached on 8:00AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Hartley can be reached on 571-272-0616. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Nabila Ebrahim

1/9/06


MICHAEL HARTLEY
PRIMARY EXAMINER